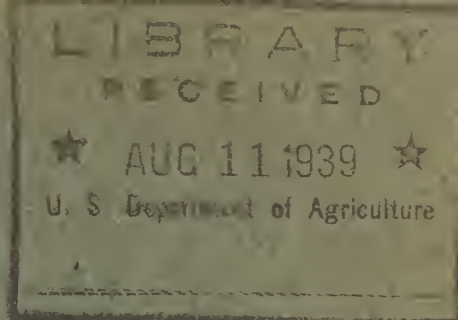


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UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
Region Eight  
Albuquerque, New Mexico



Hugh G. Calkins  
Regional Conservator

INVENTORY OF MATERIAL ON THE RIO GRANDE WATERSHED

(An Evaluation of Surveys and reports)

I

TEWA BASIN STUDY

Regional Bulletin No. 34  
Conservation Economics Series No. 7  
February, 1937



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TEWA BASIN STUDY

Indian Land Research Unit, U. S. Forest  
Service, and the Soil Erosion Service, Collaborating

1935



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## Introduction



The Towa Basin study was made in 1935 by the Indian Land Research Unit in collaboration with the U. S. Forest Service and the Soil Erosion Service. The following appraisal, two years later, is made by the Division of Human Surveys and Planning of the Soil Conservation Service, some of the Staff of which division participated in the original investigation. The study appears to have been the first comprehensive attempt to evolve a technique of study of the relationships between a human population and its land resources in the Rio Grande Valley.

Several important ideas were developed in the course of the study which were to be elaborated and objectified at a later date. Basic among these were:

1. A variety of techniques must be employed in the study of man-land relationships. Knowledge organized at the level of land use planning is not contained in a unitary study of the human population nor in a unitary study of the physical environment.

2. The related sciences had not evolved adequate procedures for the analysis of this relationship.

3. Therefore the necessity existed for the invention of new techniques that would more adequately serve to define the pertinent facts and to indicate their mutual relevancy.



The Tewa Basin Study made a beginning in this direction. Both physiographic and sociological data were collected for an area which was contained within well-defined physiographic boundaries and which was believed to be relatively homogeneous as to human use. A distinction was drawn between the phase of measurement in analysis and the phase of synthesis or interpretation and distinct types of studies were undertaken for each of these phases.

Nevertheless the organization of the Tewa Basin Study remained largely at the conceptual level. Attempts to objectify the notions of method which were developing were largely unsuccessful. The papers which together comprise the Tewa Basin Study remained to be meaningfully related to one another.

There were two major reasons for this failure. In the first place these studies were contemporary in time and sound method required a developmental organization of studies. Concretely this meant that evidence which should have been available as a basis for the predominantly interpretive studies which were conducted did not then exist. Secondly, the Tewa Basin Study was without a close connection to administrative agencies and the loose organization of the study is in some measures attributable to the fact that its point of reference was more closely related to a theory of knowledge than a theory of action.



The range of data comprehended in the Tewa Basin Study falls readily into three classes. The first of these is represented by the physical surveys and consists of ultra-extensive surveys of the range, the soils and the irrigated lands of the area. The second class of information consists primarily of descriptive and, in the main, statistical information on the Spanish-American village population of the Tewa Basin. The third type of information--more organized and more analytical--centered around the Indian population, with the single exception of an analysis of sharecropping with sheep in northern New Mexico.

In a rudimentary way a method of land use studies, later developed, was anticipated in this concept. The problem was to find the appropriate procedures and the sharpness of focus which would enable this notion of organization to be adequately objectified.

Much of the validity of such a concept of method rests on the ability to select proper focal points for organized study, institutional situations which best combine the data with which the student of land use is concerned. Without a firm foundation in objective and quantitative observations, such a selection is likely to prove premature. It is more than likely that the focal points selected for consideration in the Tewa Basin Study are not the same focal points that would be selected now. Although it now seems probable that this particular selection of institutional situations was premature the necessity for such a selection persisted.



An even more persistent necessity, arising out of the lack of close administrative connections, was the exploration of the possibilities of conducting, within the mechanism of the governmental agencies concerned in the area, studies which would be directly related to (and a part of) land use planning. This exploration, though its results are not embodied in the report on the Tewa Basin Study, revealed clearly that the utility of any research in land-use adjustment depends in a large measure upon its integral relationship with a comprehensive program of action; and that the highest utility of such studies will follow the unification of administrative action in the field of land use adjustment.



## I

## Analytic Studies



Population Trends

Land Tenure

Tewa Economy

Phases of Decline and Recovery of Craft

Tewa Government

Economics of I. E. C. W.

Culture Contact Through the Community House

Taxation in New Mexico

Sharecropping with Sheep



## THE LOCATION OF THE TEWA BASIN

Lying immediately north of Santa Fe is a wide, somewhat V-shaped, natural basin which is bounded roughly on the west by the Jemez mountains and on the east by the Sangre de Cristo Mountains. This area is the Tewa Basin. The confluence of the Rio Grande and Rio Chama mark its approximate center. For the purpose of this study the eastern boundary was taken as the ridge of the Sangre de Cristo Range from its southern tip east of Santa Fe north and east to the headwaters of Tres Ritos creek. The divide north of Tres Ritos creek forms a section of the northern boundary. The remainder of which coincides with the Rio Grande and Rio Chama above their confluence. On the west the boundary runs from a point about ten miles west of Abiquiu south along the Chihuahuanos creek and then southeasterly along the ridge of Jemez mountains to Frijoles Canyon, where it joins the Rio Grande. The southern boundary running due east from Frijoles Canyon to the Sangre de Cristo mountains is the only portion of the boundary not following natural features. (1933, p. 11).



## POPULATION TRENDS

1. Area covered. All pueblos within the Tewa Basin (San Juan, Santa Clara, San Ildefonso).
2. Type of data. Largely narrative employing graphic and statistical material.
3. Intensity. Detailed consideration of certain of the factors affecting population trends: infant mortality rates and general morbidity and mortality figures. Little or no consideration of birth rates, age-groupings, immigration into the pueblos or other relevant factors.
4. Sources. United States mortality statistics. Reports of various health surveys; reports of the Indian Service; ethnological and historical reports.
5. Standard. The evidence considered indicates that population has increased slowly during the past 15 years and that the principal causes of death are certain diseases and a high rate of infant mortality. No evidence is available on those factors affecting population trends which were not considered. The assumption is made with some supporting evidence that birth rates will not change. The conclusion is therefore reached that the population will continue to increase slowly and that if certain major causes of death are treated in a health program this upward



trend will be accentuated. No quantitative expression of this trend is given largely because the basic data for it is not available from any sources. While those factors considered are thoroughly treated, the factors on which no evidence is available may significantly affect population trends. For this reason, the general conclusion reached may be regarded only as tentative.

6. Use. A contribution to the understanding of the total complex of factors which must be considered in any plans for adjustment.
7. Significance. This report as it stands is significant as partial evidence of the trend of population in the pueblos. If extended to include consideration of additional factors on which evidence is not now available and if given more precise quantitative expression, it will be of crucial significance to any adjustment planning.



## LAND TENURE

1. Area Covered. Pueblos within the Tewa Basin.
2. Type of data. Narrative.
3. Intensity. See 5.
4. Sources. Interviews with Pueblo Indians, Pueblo Governors.

Historical materials on European land-tenure systems.

5. Standard. Presents an outline of conditions of land use and ownership, land acquisition and inheritance, land distribution, and some of the rights and obligations attached to land use or ownership. This statement is generalized from a large amount of evidence and does not attempt to present all the minor variations from the general pattern. A certain amount of specific evidence is presented by way of illustration. Parallels are drawn with European peasant land-tenure which may be useful in interpretation.
6. Use. A primary contribution to the understanding of land-use, obviously essential to any understanding of present conditions and to any plan for adjustment.
7. Significance. Significant as an outline generalized description useful in broad plans. Minor and local variations and fuller detail might be necessary to very specific adjustment plans.



## TEWA ECONOMY

1. Area Covered. The pueblo of San Ildefonso.
2. Type of data. Narrative.
3. Intensity. Although virtually every household in the Pueblo was visited, the material is presented at a very generalized level.
4. Sources. Interviews with at least one member of virtually every household in the Pueblo.
5. Standard. A general absence of quantitative data weakens this study. The material is in the main qualitative and the conclusions, while probably valid, are not demonstrable from the evidence presented. Much more evidence than is presented was used, however, in the formulation of the thesis.
6. Use. This study contained an analysis of the transition in pueblo economy from an earlier self-sufficiency to present dependence upon cash. This process is important in an understanding of pueblo economy and many of the studies subsequently undertaken drew upon this analysis.
7. Significance. Tewa Economy is a suggestive and, in the light of later evidence, valid treatment of the major aspects of pueblo economy. However, the material is overgeneralized and lacks elaboration and documentation. It stands



more as a useful hypothesis of the importance of certain relationships than as a conclusive demonstration of this importance.



## PHASES OF DECLINE AND RECOVERY OF CRAFT

1. Area covered. San Ildefonso Pueblo
2. Type of data. Narrative.
3. Intensity. Detailed roughly quantitative consideration of objective material upon changes in craft products and methods of craft production; general quantitative consideration of the changing place of craft in the total economy of pueblo. Similar general consideration of the effects of the changes in craft upon other institutions of the pueblo.
4. Sources. Extended field observation of craft production.  
Interviews with the leading figures in craft production and with authorities on pueblo craft.
5. Standard. The change of the craft product from the utilitarian object variously elaborated to a standardized product endowed with those qualities found most marketable is traced in detail in a roughly quantitative manner. The evidence is abundant and the thesis conclusive. General observations upon the replacement of agriculture by craft as the principal income-producing activity are based upon a large amount of evidence considered in a roughly quantitative manner. Suggestive observations on the changed status of women, the psychological function of craft production and the general psycho-social effects of the



change in the craft product and methods of craft production are made. These interpretations have varying degrees of validity. The basic data upon which they are based is not presented.

6. Use. Used in an attempt to understand the changing place of craft in the life of the pueblo.
7. Significance. Significant in indicating the multiple effects of changes in craft production. Its suggestions in some instances are extremely plausible, in others more tenuous.



## TEWA GOVERNMENT

1. Area covered. The pueblos within the Tewa Basin.
2. Type of data. Narrative.
3. Intensity. See 5.
4. Sources. Interviews with officials and other members of each of the pueblos. Ethnological reports on the pueblos.
5. Standard. This study presents a description of the main outlines of governmental forms in each of the 5 pueblos; the political and ceremonial groups, the political bodies and officials, and the manner of their selection, their functions, theoretical and actual, so far as could be determined. It gives suggestive indications of current changes in government in relation to other changing institutions.
6. Use. Used as a contribution to the understanding of factors to be considered in many plans for adjustment.
7. Significance. Provides an accurate outline description useful as a framework for more intensive study of pueblo government, its current functioning and its relation to other institutions of present-day pueblo life.



## ECONOMICS OF I.E.C.W.

1. Area covered. The Tewa Basin.
2. Type of data. Narrative.
3. Intensity. See 5
4. Sources. Extensive interviews with almost all members of San Ildefonso, and Tesuque Pueblos. Agency material on I.E.C.W. wages, employment, and experience in programs.
5. Standard. This study was projected to determine the effects upon the economy of the Tewa pueblos of the sudden injection of wage work. Examines carefully the basis of the I.E.C.W. program and its irrelevance to pueblo economy. Selects the chief significant effects indicated by the extensive information gathered and traces them in outline into the entire pueblo economy. Does not give quantitative expression of these effects. Additional information which has since become available substantiates the accuracy of the analysis.
6. Use. See 7.
7. Significance. Significant in revealing clearly the further unbalance introduced into pueblo economy by emergency relief wage work, in the shape of increasing cash needs and decreasing utilization of permanent resources in their satisfaction. Indicates the nature of some of the principal relationships which must be carefully considered in any program of adjustment.



CULTURE CONTACT THROUGH THE COMMUNITY  
HOUSE

1. Area covered. Tesuque Pueblo.
2. Type of material. Narrative.
3. Intensity. Specific examination of each activity which centered in the community house with relation to:
  1. The degree of acceptance of each new technique by the pueblo.
  2. The reason for acceptance or rejection.
  3. The economic feasibility of each newly projected craft activity.
4. Source. Interviews with government sponsors and Indian participants; also observations at the community house.
5. Standard. This study was projected to throw some light on what were the characteristic features of innovations which (a) were readily accepted by the pueblo and which (b) were not accepted by the pueblo.
6. Use. No administrative use has been made of this study; however, a valuable frame of reference was provided for future consideration of the problem of the feasibility of craft development among the pueblos.
7. Significance. Two major points were developed in this paper. First, the ease of acceptance of new techniques in Tesuque pueblo was in direct proportion to the prior existence of similar techniques.



Second, craft production which depended predominantly on raw materials that needed to be purchased was generally unfeasible. The principal limitation to the significance of this study is contained in the relatively small group studied.



## TAXATION IN NEW MEXICO

1. Area covered. State of New Mexico
2. Type of data. Narrative, statistical and graphic.
3. Intensity. A brief study of taxation in New Mexico as a whole, more intensive study of four counties of Rio Arriba, Sandoval, Santa Fe and Taos with special reference to property taxation in the Tewa Basin.
4. Sources. Taxation studies. Annual and other reports of state governmental agencies, records of County Treasurers and Assessors, and of Cattle Sanitary Board.
5. Standard. Provides an outline picture of the functioning of the taxation system in the state, on the basis of which is evaluated the effect of the removal of certain federal government purchase areas from the tax rolls.
6. Use. Demonstrated that the removal of the purchase areas from the county tax rolls would represent but a small loss in tax values.
7. Significance. Answers adequately the specific question as to the effect of government land purchase program upon state tax revenues. Indicates clearly that the administration of the existing tax laws is inefficient, and that if revenue from property were serious consideration this aspect of the tax system might be attacked.



## SHARECROPPING WITH SHEEP

1. Area studied. Northern New Mexico.
2. Type of data. Narrative and graphic.
3. Intensity. See 5.
4. Sources. Interviews with sheep sharecroppers, large sheep operators and their employees; county officials; records of U. S. Forest Service.
5. Standard. In order to understand more specifically the characteristics of dependency in a limited sphere of activity--the practice of renting out sheep--this study endeavors through several case histories and interviews to determine the mechanism of the sharecropping contract, the reasons for its emergence and its continuance, the benefits deriving to the parties thereto, and the relationship of land use in general and government policy in particular to the emergence and continuance of such an institution.
6. Use. This study was drawn upon in the preparation of a schedule for the measurement of human dependence on resources. It had a further use in the formulation of a policy of grazing use for areas purchased by the Federal government and administered by the Soil Conservation Service. It has, in addition, proved a valuable aid in the interpretation of data relative to the use of federally owned and administered grazing areas.



7. Significance. Significant in disclosing certain factors of use of public resources which are tending to increase the necessity for a feudal relationship between large and small operators. Based on a sample of the population so engaged this paper has proved an accurate treatment of the problem wherever it has subsequently been encountered.



## II

## The Spanish-American Villages



## THE TEWA BASIN STUDY

## Spanish-American Villages

1. Area covered. All (32) Spanish-American villages in the Tewa Basin including a Spanish-American population of about 20,000, which is 85% of the total area population.
2. Type of data. Narrative and statistical.
3. Intensity. Detailed quantitative data on (1) population by individual and family, (2) distribution of school children by grade, (3) rooms per house in relation to individuals per house, (4) persons on relief. Roughly quantitative detailed data on work activities, farming, livestock, wage-work, handicrafts, crops, yields, water supply, income; land condition and ownership, use of land resources; number, size and character of stores; health; community organizations.
4. Sources. U. S. Census reports; public school records; records of governmental relief agencies; post office records; interviews and observations recorded by two trained Spanish-American investigators who spent four months in the villages studied.
5. Standard. The study was projected to fill the need for a generalized comprehensive picture of the Spanish-American villages, their work and other institutionalized activities.



the resources associated with those activities, and the level and nature of the livelihood derived from them. Such a generalized and yet reliable outline was not in existence. Before even the most primary hypotheses of the problems of land-use in the area could be formulated, or any significant relationships posed for study, such a generalized understanding of human activity in the villages was essential.

This report, in contrast to the others on another level of investigation in the Tewa Basin Study, presents large quantities of evidence with a modicum of interpretation. The evidence is on the whole so well chosen that it speaks for itself to a high degree in presenting a comprehensive, understandable picture of livelihood in the Spanish-American villages. A variety of different types of evidence are presented: some quantitative to a higher or lesser degree, and some qualitative; some derived from counts of objects and people, some from statements of people interviewed. Much of the evidence is of a basic nature indicating clearly the character of the principal work activities and much of it is in the nature of a variety of indices descriptive of the level and character of livelihood.



6. Use. This study resulted in the projection of the more intensive Santa Cruz survey as a basis for a Rehabilitation Plan; it furnishes significant data for the organization of the Human Dependency Survey of the Rio Grande Watershed; it suggested the need for specific studies of various productive activities in the area, one of which, the study of chili-growing, was carried out.
7. Significance. Significant as the first adequate generalized description of livelihood in the Spanish-American villages which can serve as a basis for the projection of further more intensive studies.



## III

## Physical Surveys



1. REPORT ON SOIL AND EROSION
2. RANGE SURVEY



REPORT ON SOIL AND EROSION CONDITIONS WITH RECOMMENDED CONTROL METHODS; TEWA BASIN PROBLEM AREA, NEW MEXICO--M. R. ISAACSON AND R. H. LOVALD - 1935.

1. Area covered. Tewa Basin. That portion of the Rio Grande drainage lying between the north line of Twp. 17 N. and the south line of Twp. 24 N. and bordered on the east by the Santa Fe National Forest and on the west by the Carson National Forest. The total area includes 914 square miles.
2. Type of data. Narrative: A 15 page report dealing with geological history, precipitation, drainage, erosion, land use, and recommended erosion control methods. Statistical: none; graphic: 17 photographs showing typical soil and erosion conditions, topographic relationships, one generalized erosion map, and one conservation map showing soil types, erosion, slope classes and land use.
3. Intensity. Thirty to sixty square miles were covered per day. Scale of map 1 inch equal to 1 mile. Minimum size of area delineated 80 acres.
4. Sources. Much of the information was secured from actual field observation during the survey. The following references were consulted:
 

Wheeler, Lt. Geo. M. U. S. Geographical Survey West of the 100th Meridian.

Johnson, E. A.                      Grazing Resources and Activities of the Northern Pueblo Indian Lands, New Mexico. Unpublished Manuscript, U.S. Indian Service, 1932.



U. S. Weather Bureau

Climatic Summary of the United  
States Section 27, Northwestern  
New Mexico. Summaries up to 1930.

5. Standard. Reconnaissance conservation standards as discussed under intensity.
6. Use. A preliminary inventory of erosion and soil conditions.
7. Significance. The Tewa Basin survey showed widespread misuse of range and agricultural lands with resultant severe erosion. Several acute problem areas were delineated and control measures recommended.



## TEWA BASIN RANGE SURVEY

1. Area covered. The area concerned is bounded on the north by the Rio Chama and the Rio Grande, on the east by the crest of the Sangre de Cristo Mountains, and on the west by a portion of the Jemez Mountains. The Southern boundary begins two and one-half miles north of Santa Fe and extends west to the junction of Frijoles Canyon and the Rio Grande, thence along Frijoles Canyon into the Jemez Mountains.
2. Type of data. The range survey data of the Tewa Basin were prepared in June, 1935, in a narrative, statistical and graphic form.
3. Intensity. The range survey of the Tewa Basin is classified as a preliminary survey. Carrying capacities and acreages were determined by planimetering from a type map developed from the ultra-extensive field survey.
4. Sources. Ultra-extensive field survey. Existing Forest Service Survey material. Much of the actual use data secured for the Tewa Basin report were based on contacts with the inhabitants of the area. The following literature was used in preparing the report:
 

Cooperrider, C. K. and Hendricks, B. A.	Soil Erosion and Stream Flow in the Upper Rio Grande Watershed in Relation to Land Resources and Human Welfare. Unpublished Manuscript, U. S. F. S. 1932.
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Isaacson, M. R. and Lovald, R. H.	Report on Soil and Erosion Conditions with Recommended Control Methods, Tewa Basin problem area, New Mexico. Unpublished Manuscript. U. S. Soil Conservation Service, 1935.
Johnson, E. A.	Grazing resources and activities of the Northern Pueblo Indian Lands, New Mexico. Unpublished Manuscript, U. S. Indian Service, 1932.
U. S. Weather Bureau	"Climatic Summary of the United States Section 27, Northwestern New Mexico." Summaries up to 1930.
Santa Fe and Carson National Forests	"Land Uses Survey". Summary Unpublished Report, U. S. Forest Service, 1934.

5. Standard. Regular range survey standards were used for preliminary surveys.
6. Use. Served as a guide and management for regular extensive range surveys which followed.
7. Significance. The Tewa Basin Survey gave a general picture of the area as far as range conditions were concerned. The survey demonstrated that there were at least twice the number of stock using the area as there should have been, according to the carrying capacity. The survey aided in administrative activities.



## IV

Proposals For The Santa Cruz Area



## PROPOSALS FOR THE SANTA CRUZ AREA

As a direct outgrowth of the studies conducted in the Spanish-American villages of the Tewa Basin, a group of studies were made which, together, comprise the rehabilitation proposals for the Santa Cruz-Truchas area.

Out of these studies grew a proposal for the rehabilitation of the Santa Cruz-Truchas area which differed in every essential respect from previous government efforts in the area. In the first place, the plan recognized that the problems in the Santa Cruz Valley did not result from the variations in human aptitude that obtained, but rather from the serious deterioration in the resources of the area. Therefore the intended reconstruction was regional rather than individual. Secondly, it recognized that the Santa Cruz area was already overburdened with debt and could not support from its present resources the present indebtedness, let alone any future increase in indebtedness.

The plan which incorporated these principles was presented under the title of "Proposals for the Santa Cruz Area." The Resettlement Administration, through Dr. Tugwell and Mr. Jonathan Garst, became interested and offered to finance the execution of such a program.

A statement of policy which was to be considered binding upon the Resettlement Administration and the Soil Conservation Service was signed by the Regional Director of the Resettlement Administration and the Regional Conservator of the Soil Conservation Service. This defined the basic principles of an agreement under which the Soil



Conservation Service and the Resettlement Administration would cooperate.

It was further agreed that the information then available would need to be supplemented before any program of rehabilitation could enter upon an administrative phase. To this end a dependency survey was undertaken under the direction of a member of the Division of Regional Planning.

During the progress of this survey an administrative change occurred by which the Santa Cruz-Truchas area was transferred from one region of the Resettlement Administration to another region. Coincident with this change it became clear that the administrative requirements of the Resettlement Administration and the technical requirements of the problem in the Santa Cruz Valley were not compatible. The data collected were required to be broken down and presented in terms of a nation-wide bookkeeping form. With the completion of this form, the "plan book", the project was abandoned by the Resettlement Administration.

In terms of the foregoing there are three reports which will form a part of the inventory of material available for the Rio Grande watershed. They are:

- 1) Rural Rehabilitation in Santa Cruz
- 2) Proposals for the Santa Cruz area
- 3) Resettlement Plan Book for the Santa-Cruz-Truchas Project.



## RURAL REHABILITATION IN SANTA CRUZ

1. Area Covered. Santa Cruz Valley.
2. Type of Data. Narrative and statistical.
3. Intensity. Every rehabilitation loan made in the Santa Cruz Valley was analyzed.
4. Sources. Santa Fe and Rio Arriba County offices and the studies of the Spanish-American population of the Santa Cruz Valley included in the Tewa Basin Study.
5. Standard. Rigid statistical analysis of the amount of all loans in relation to the income status of the recipient. Comparison of the economic status of recipients and non-recipients of loans. Analysis of the degree to which facilities for repayment had been altered by the extension of this type of credit.
6. Use. This analysis was the keystone of the proposed rehabilitation plan for the Santa Cruz-Truchas area, and has proved a material aid in the evaluation of rehabilitation efforts of government agencies in all similar areas.
7. Significance. Thoroughly sound analysis of the nature of rural rehabilitation activities. Although these conclusions were drawn from a limited area in the first instance, additional evidence from other areas has served only to further document these conclusions.



## PROPOSALS FOR THE SANTA CRUZ AREA

1. Area Covered. Santa Cruz Valley in Tewa Basin.
2. Type of Data. Narrative and statistical.
3. Intensity. Includes general outline of comprehensive proposals affecting land-use and livelihood in the Area. Also includes specific detailing of plans for reorganization of economic life, but not for physical operations involved.
4. Sources. Spanish-American Village Survey; other reports on Santa Cruz Area.
5. Standard. Proposals based on definition of problem and possibilities derived from generalized descriptive study, and from analysis of effects of Rural Rehabilitation program in the area.
6. Use. Used in establishing the intensive Santa Cruz-Truchas Project survey.
7. Significance. Basic idea appears to be sound, but it requires further elaboration.



## RESETTLEMENT PLAN BOOK FOR THE SANTA CRUZ-TRUCHAS PROJECT

1. Area Covered. Santa Cruz Valley.
2. Type of data. Narrative, graphic, statistical.
3. Intensity. Extremely detailed and quantitative treatment of economic activities; land resources, crops, yields, cash income; climatological data, water supply data, engineering data.
4. Sources. Original detailed agronomic, engineering, and human surveys; Human Survey covered each family in area; using a detailed and rigid schedule. Existent material on health, educational facilities.
5. Standard. The report was prepared to fit a form developed by the Resettlement Administration. The completed report, according to this outline, is supposed to supply all the data necessary to the formulation of detailed project plans. Actually the greatest emphasis seems to be upon costs - and there is not presented a complete and well formulated definition of the problem, its elements, or its proposed solution.
6. Use. Used in reaching decision as to feasibility of project.
7. Significance. An inconsiderable accomplishment in which potentially usable material was improperly analyzed and improperly used.

